

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Group Art Unit 3656

In re

Patent Application of

Walter Haussecker et al.

Application Serial No. 10/540,713

Confirmation No. 2416

Filed: June 14, 2005

Examiner: Vinh T. Luong

“DRIVE UNIT FOR ACTUATORS IN A MOTOR
VEHICLE”

APPEAL BRIEF

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed with the Board of Patent Appeals and Interferences in response to the Office action dated February 22, 2010 and the Advisory Action dated May 24, 2010, and is further to the Notice of Appeal filed June 14, 2010.

The appeal brief fee under 37 CFR 41.20(b)(2) in the amount of \$540.00 is being paid by credit card. Please charge any additional fees or credit any overpayment to Deposit Account No. 13-3080.

As discussed below in more detail, with the present Appeal brief, Applicants have filed an Amendment in accordance with 37 C.F.R. 41.33(b).

(1) Real Party in Interest

The real party in interest is ROBERT BOSCH GMBH, to which the inventors assigned their entire right, title, and interest in and to the invention in the assignment recorded June 14, 2005 at reel/frame 017429/0597.

(2) Related Appeals and Interferences

There are no related appeals or interferences.

(3) Status of Claims

Claims 1, 4, 5, 7-10, 14, 18 and 23 are pending and are finally rejected by the Examiner. Claims 2, 6, 11-13, 15-17, 19 and 21 are withdrawn and claims 3 and 22 are canceled. Claim 20 is canceled without prejudice in an Amendment filed in accordance with 37 C.F.R. 41.33(b) with the present Appeal Brief. Applicants appeal the rejection of claims 1, 4, 5, 7-10, 14, 18 and 23.

The claims stand rejected as follows:

Claim 9 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claims 1, 4, 5, 7-10, 14, 18 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Publication No. WO 01/61133 A1 (Hager et al.) in view of U.S. Patent No. 6,345,925 (Coleman).

(4) Status of Amendments

A Request for Reconsideration filed May 18, 2010 was considered by the Examiner.

As mentioned above, an Amendment is filed with the present Appeal Brief. In the Amendment, dependent claim 20 is canceled without affecting the scope of any other claim in the appeal, and, accordingly, Applicants have requested entry of the Amendment in accordance with 37 C.F.R. 41.33(b). The present Appeal Brief is prepared to reflect entry of the Amendment and cancellation of claim 20.

(5) Summary of Claimed Subject Matter

Independent claim 1 recites a drive unit (10) for actuating drives in a motor vehicle and having a first housing part (12), and a second housing part (14), which is connected to the first housing part (12) by means of connecting elements (40) (§4, 22, 23, Figs 1 and 2). The first housing part (12) features receptacles (38) for the connecting elements (40) (§23, 25, Figs. 2 and 4). The receptacles (38) are centering holes (36) that receive corresponding centering pins (48), which are positioned on the second housing part (14) (§5, 23-27, Figs. 2-6). Claim 1 further recites that the second housing part (14) features counter receptacles (44, 46) for the connecting elements (40) (§23-25, Figs. 2-6). The counter receptacles (44, 46) are surrounded at least partially by the centering pins (48) (§23-25, Figs. 2-6). The first and second housing parts (12, 14) are assigned bearing functions for an armature shaft (24) (§4, 11, 12, 22, 23, Fig. 1).

Claim 8 depends from claim 1 and further recites that the centering pin (48) forms a clearance fit together with the centering holes (36) (§11, 23, 26, 27).

Independent claim 23 recites a drive unit (10) for actuating drives in a motor vehicle and having a first housing part (12), and a second housing part (14), which is connected to the first housing part (12) by means of connecting elements (40) (§4, 22, 23, Figs. 1 and 2). The first housing part (12) features receptacles (38) for the connecting elements (40) (§23, 25, Figs. 2 and 4). Claim 23 further recites that the receptacles (38) are centering holes (36) that receive corresponding centering pins (48), which are positioned on the second housing part (14) (§5, 23-27, Figs. 2-6). The centering pins (48) and the second housing part (14) are formed as one unitary piece by injection molding (§24, Figs. 2, 4, 5, 6).

(6) Grounds of Rejection to be Reviewed on Appeal

Whether claims 1, 4, 5, 7-10, 14, 18 and 23 are unpatentable under 35 U.S.C. §103(a) over Publication No. WO 01/61133 A1 (Hager et al.) in view of U.S. Patent No. 6,345,925 (Coleman).

(7) Argument

Rejection of claims 1, 4, 5, 7-10, 14, 18 and 23 under 35 U.S.C. §103(a) as being unpatentable over Publication No. WO 01/61133 A1 (Hager et al.) in view of U.S. Patent No. 6,345,925 (Coleman).

Applicants submit that the Examiner's rejection of claims 1, 4, 5, 7-10, 14, 18 and 23 under 35 U.S.C. §103(a) as being unpatentable over Hager et al. in view of Coleman is improper.

Claim 1

Claim 1 recites, among other things, a first housing part that features receptacles for the connecting elements, the receptacles are embodied as centering holes for corresponding centering pins, which are arranged on the second housing part, and the second housing part features counter receptacles for the connecting elements, which are surrounded at least partially by the centering pins.

As agreed by the Examiner, Hager does not teach the receptacles embodied as centering holes for corresponding centering pins arranged on the second housing part and the second housing part featuring counter receptacles for the connecting elements surrounded at least partially by the centering pins.

The Examiner cites Coleman to support the notion that it would have been obvious to form the receptacles embodied as centering holes for corresponding centering pins arranged on Hager's second housing part and Hager's second housing part featuring counter receptacles for Hager's connecting elements surrounded at least partially by the centering pins.

Coleman discloses a fastener 10 that includes a lower plate 12, an upper plate 14 and bolts 16 that extend through conveyor belt ends 18, 20 to splice the conveyor bent ends 18 and 20 together. The lower plate 12 includes recessed apertures 30 and 32 that receive an enlarged head portion 42 of the bolts 16. Coleman does not actually disclose centering pins, although the Examiner points to semi-conical recess wall portions 94 and 96 of the recessed apertures 30 and 32 as supposed centering pins. The semi-conical recess wall portions 94 and 96 of Coleman are formed on the lower plate 12, and a through hole 38 (compared by the Examiner to a counter receptacle) is formed in the belt end 18.

In contrast, claim 1 requires a first housing part connected to a second housing part by means of connecting elements, the first housing part including centering hole receptacles, and the second housing part including centering pins and counter receptacles for the connecting elements.

The semi-conical recess wall portions 94 and 96 of Coleman do form a conical seat sized to receive the bolt head surfaces 106. The bolt heads 42 define notches 108 and 110 that receive respective projections 102 and 104 to prevent rotation of the bolts 16 within the lower plate 12. The function of the conical seat is not to center the bolts 16, but rather to prevent rotation of the bolts 16 within the lower plate 12. Only through impermissible hindsight would one of ordinary skill in the art compare the semi-conical recess wall portions 94 and 96 of Coleman to the centering pins of claim 1.

Further, Coleman does not teach that centering pins of a first housing part engage with receptacles of a second housing part. The semi-conical recess wall portions 94, 96 of the lower plate 12 are pressed into the flexible conveyor belt end 18, but not into the openings (30, 32, 34, 36) of the other housing part (upper plate 14). As seen in Fig 13a, washers 112 are disposed between the semi-conical recess wall portions 94, 96 and the conveyor belt 18, which prevent an insertion of the semi-conical recess wall portions 94, 96 into a corresponding opening (of the belt/ or the second housing part).

On page 3 of the May 24, 2010 Advisory Action, the Examiner asserts that the Applicants are attacking the references individually. However, the Examiner specifically states on page 3 of the February 22, 2010 Office action “Hager does not teach the receptacles embodied as centering holes for corresponding centering pins arranged on the second housing part and the second housing art featuring counter receptacles for the connecting elements surrounding at least partially by the centering pins.” Applicants agree that Hager does not teach or suggest these claim limitations. Further, on page 3 of the February 22, 2010 Office action the Examiner states “Coleman teaches the receptacles 32 embodied as centering holes 32 (FIG. 3) for corresponding centering pins 94, 96 arranged on the second housing part 18 and the second housing part 18 featuring counter receptacles 38 for the connecting elements 16 surrounding at least partially by the centering pins 94, 96 in order to improve the strength of the housing part.” The flexible conveyor belt end 18 is compared to the second housing

part, and it is alleged that the flexible conveyor belt end 18 includes the semi-conical recess wall portions 94, 96 of the lower plate 12 in addition to the through holes 38. This is contrary to the disclosure of Coleman, because the lower plate 12 defines the semi-conical recess wall portions 94, 96 and the flexible conveyor belt end 18 defines the through hole 38. The Applicants assert that neither Hager nor Coleman, taken alone or in combination, teach that a second housing part includes centering pins and counter receptacles for the connecting elements, as claimed in claim 1.

Further, there is no motivation to combine Hager and Coleman. Rather, Coleman discloses connecting ends of a conveyor belt that has to be elastically deformable and flexible. In contrast, the first housing part 2 and the second housing part 15 are substantially rigid. One of ordinary skill in the art would not look to Coleman's disclosure of how to connect two deformable and flexible components. Hager connects two substantially rigid components.

Additionally, it is not obvious to combine a drive unit for a motor vehicle with a fastener arrangement for connecting ends of a conveyor belt. Why would anyone skilled in the art of electric motors even look at Coleman?

For these reasons, Applicants' respectfully submit that the rejection of claim 1 is in error.

Claim 8

Claim 8 depends from independent claim 1, and will be allowed if claim 1 is allowed. Claim 8 further recites that the centering pin forms a clearance fit together with the centering holes.

The Examiner states that the semi-conical recess wall portions 94, 96 form a clearance fit with aperture 32. The Examiner points to Figs. 3 and 13 A in support of this notion. According to the on-line Dictionary of Automotive Terms a clearance fit is defined as: "Parts that are assembled so that there is clearance between them so that one part can slide in or on the other. Also called *sliding fit*" In contrast, the semi-conical recess wall portion 94, 96 define the aperture 32. Specifically, semi-conical recess wall portions 94, 96 and the aperture 32 are both positioned on the lower plate 12. The semi-conical recess wall portions 94, 96 and the aperture 32 are not *parts that are assembled so that there is clearance between them*

so that one part can slide in or on the other. Therefore, the semi-conical recess wall portions 94, 96 and the aperture 32 do not form a clearance fit.

Claim 23

Claim 23 recites, among other things, a first housing part that features receptacles for the connecting elements, the receptacles are embodied as centering holes for corresponding centering pins, which are arranged on the second housing part, and the centering pins and the second housing part are formed as one unitary piece by injection molding.

As argued above with respect to claim 1, Hager and Coleman, taken alone or in combination do not teach or suggest a first housing part that features receptacles for the connecting elements, the receptacles are embodied as centering holes for corresponding centering pins, which are arranged on the second housing part. Only through impermissible hindsight would one of ordinary skill in the art compare the semi-conical recess wall portions 94 and 96 of Coleman to the centering pins of claim 23. Further, there is no motivation to combine Hager and Coleman. Coleman discloses connecting ends of a conveyor belt that has to be elastically deformable and flexible. In contrast, the first housing part 2 and the second housing part 15 are substantially rigid. One of ordinary skill in the art would not look to Coleman's disclosure of how to connect two deformable and flexible components. Hager connects two substantially rigid components. For the sake of brevity, reference is made to the Claim 1 section for the discussion of these arguments.

Furthermore, even if Coleman did disclose centering pins, Coleman does not teach or suggest forming the centering pins and the second housing part as one unitary piece by injection molding, as claimed in claim 23. The Examiner alleges that it is obvious engineering choice to make the centering pins and the housing part in the drive as one unitary piece. However, this is based upon impermissible hindsight. The conical wall portions 94 and 96 of Coleman are formed by a metal plate 12 and are pressed into a flexible, rubber conveyor belt end 18. It would not be obvious to one of ordinary skill in the art to make the metal semi-conical wall portions 94 and 96 and the rubber conveyor belt end 18 as one unitary piece by injection molding. One of ordinary skill in the art would recognize that a single unitary part is not easily made and does not obviously comprise components of differing materials. Further, if the semi-conical wall portions 94 and 96 were made of rubber, or if the

conveyor belt end 18 were made of metal, Coleman would be inoperable for its intended purpose. Namely, the proposed rubber semi-conical wall portions 94 and 96 would not prevent the bolts 16 from rotating and the proposed metal conveyor belt would not be flexible to travel a circular and often serpentine path which conveyor belts travel.

For these reasons, Applicants' respectfully submit that the rejection of claim 23 is in error.

CONCLUSION

For the reasons set forth above, Applicants respectfully request a favorable decision and allowance of claims 1, 4, 5, 7-10, 14, 18 and 23.

Respectfully submitted,

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(8) Claims Appendix

What is claimed is:

1. A drive unit (10) for actuating drives in a motor vehicle with a first housing part (12), and a second housing part (14), which is connected to the first housing part (12) by means of connecting elements (40), wherein the first housing part (12) features receptacles (38) for the connecting elements (40), characterized in that the receptacles (38) are embodied as centering holes (36) for corresponding centering pins (48), which are arranged on the second housing part (14), characterized in that the second housing part (14) features counter receptacles (44, 46) for the connecting elements (40), which are surrounded at least partially by the centering pins (48), and characterized in that the first and second housing parts (12, 14) are assigned bearing functions for an armature shaft (24).
2. Drive unit (10) according to Claim 1, characterized in that the centering pins (48) are embodied as connecting elements (40).
4. Drive unit (10) according to Claim 1, characterized in that the centering pins (48) are embodied to be sleeves.
5. Drive unit (10) according to Claim 1, characterized in that lead-in bevels (60, 66) are formed on the centering pins (48).
6. Drive unit (10) according to Claim 1, characterized in that the connecting elements (40) feature a head (52), whose diameter (54) is greater than the diameter (56) of the centering holes (36).
7. Drive unit (10) according to Claim 1, characterized in that the centering holes (36) are arranged as through bore holes (36) in a flange (34) whose thickness (70) is greater than the height (72) of the centering pin (48).

8. Drive unit (10) according to Claim 1, characterized in that the centering pin (48) forms a clearance fit together with the centering holes (36).
9. Drive unit (10) according to Claim 1, characterized in that the first and second housing parts (12, 14) are assigned bearing functions for the armature shaft (24).
10. Drive unit (10) according to Claim 1, characterized in that the counter receptacles (44) are embodied as pocket holes or through holes (46).
11. Drive unit (10) according to Claim 2, characterized in that the centering pins (48) are embodied to be sleeve-like.
12. Drive unit (10) according to Claim 1, characterized in that the centering pins (48) are embodied to be sleeve-like.
13. Drive unit (10) according to Claim 2, characterized in that lead-in bevels (60, 66) are formed on the centering pins (48).
14. Drive unit (10) according to Claim 1, characterized in that lead-in bevels (60, 66) are formed on the centering pins (48).
15. Drive unit (10) according to Claim 2, characterized in that the connecting elements (40) feature a head (52), whose diameter (54) is greater than the diameter (56) of the centering holes (36).
16. Drive unit (10) according to Claim 1, characterized in that the connecting elements (40) feature a head (52), whose diameter (54) is greater than the diameter (56) of the centering holes (36).

17. Drive unit (10) according to Claim 2, characterized in that the centering holes (36) are arranged as through bore holes (36) in a flange (34) whose thickness (70) is greater than the height (72) of the centering pin (48).
18. Drive unit (10) according to Claim 1, characterized in that the centering holes (36) are arranged as through bore holes (36) in a flange (34) whose thickness (70) is greater than the height (72) of the centering pin (48).
19. Drive unit (10) according to Claim 2, characterized in that the centering pin (48) forms a clearance fit together with the centering holes (36).
21. Drive unit (10) according to Claim 2, characterized in that the first and second housing parts (12, 14) are assigned bearing functions for an armature shaft (24).
23. A drive unit (10) for actuating drives in a motor vehicle with a first housing part (12), and a second housing part (14), which is connected to the first housing part (12) by means of connecting elements (40), wherein the first housing part (12) features receptacles (38) for the connecting elements (40), characterized in that the receptacles (38) are embodied as centering holes (36) for corresponding centering pins (48), which are arranged on the second housing part (14), and characterized in that centering pins (48) and the second housing part (14) are formed as one unitary piece by injection molding.

(9) Evidence Appendix

None.

(10) Related Proceedings Appendix

None.